

EAST Search History - 10/804,788

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	16	"1267428"	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/07/26 16:38
L2	1	"200253533"	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/07/26 16:39
L3	3	"2002053533"	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/07/26 16:39
L4	1	"200247932"	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/07/26 16:39
L5	2	"2000247932"	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/07/26 16:41
L6	2	"200063335"	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/07/26 16:41
L7	3	"2000063335"	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/07/26 16:44
L8	0	tris adj3 (biphenyl and tertiary and amine)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/07/26 16:44
L9	7	dendrimer same (biphenyl and tertiary and amine)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/07/26 16:45
L10	4	tctata	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/07/26 16:46
L11	57	tcata	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/07/26 16:55

EAST Search History

L12	17	"2"\$cata	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/07/26 16:56
L13	0	"2\$cata"	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/07/26 16:55
L14	3	"04308688"	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/07/26 16:56
L15	2	"5061569".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/07/26 16:57
L16	178104	428/690.ccls. or 313/504.ccls. or 313/506.ccls. or 428/917.ccls. or electrolumines\$ or opto-elect\$ or electro-optic\$	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/07/26 16:57
L17	1394	16 and triarylamine	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/07/26 16:58
L18	47	17 and (triarylamine same (starburst or dendrimer))	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/07/26 17:09
L19	78	17 and ((triphenylamine or tri-biphenylamine or bi-phenylamine) same (starburst or dendrimer))	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/07/26 17:10
L20	54	19 not 18	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/07/26 17:44
L21	1	"10/804788"	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/07/26 18:08
L22	4	"1464691"	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/07/26 18:07
L23	3	"1464691"	EPO; DERWENT	OR	ON	2007/07/26 18:07

EAST Search History

L24	2	"7128982".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/07/26 18:09
L25	2	"20070015008"	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/07/26 18:10
L26	2	"2003317946"	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/07/26 18:11
L27	2	"20040005404"	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/07/26 18:13
L28	16	"1371709"	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/07/26 18:36
L29	2	"5891587".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/07/26 18:37
L30	2	"20030030059"	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/07/26 18:38
L31	2	"20020094452"	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/07/26 19:18
L32	2	"20020094452"	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/07/26 19:18

FILE 'CAPLUS' ENTERED AT 17:51:03 ON 26 JUL 2007
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 FILE LAST UPDATED: 25 Jul 2007 (20070725/ED)

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=> e US2004189190/PN

E1	1	US2004189188/PN
E2	1	US2004189189/PN
E3	1 -->	US2004189190/PN
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E10	1	US2004189204/PN
E11	1	US2004189205/PN
E12	1	US2004189206/PN

=> s E3

L5 1 US2004189190/PN

=> d all

L5 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2007 ACS on STN
 AN 2004:802182 CAPLUS
 DN 141:322678
 ED Entered STN: 01 Oct 2004
 TI Organic electroluminescent element, illuminator, and display
 IN Suzuri, Yoshiyuki; Kita, Hiroshi; Oshiyama, Tomohiro; Fukuda, Mitsuhiro;
 Ueda, Noriko
 PA Japan
 SO U.S. Pat. Appl. Publ., 63 pp.
 CODEN: USXXCO
 DT Patent
 LA English
 IC ICM H05B033-14
 ICS F21V009-16
 INCL 313504000
 CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other
 Reprographic Processes)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	US 2004189190	A1	20040930	US 2004-804788	20040319 <--
	EP 1464691	A2	20041006	EP 2004-6649	20040319
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	IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK				
	JP 2004311424	A	20041104	JP 2004-84609	20040323
PRAI	JP 2003-85023	A	20030326		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2004189190	ICM	H05B033-14
	ICS	F21V009-16
	INCL	313504000
	IPCI	H05B0033-14 [ICM,7]; F21V0009-16 [ICS,7]; F21V0009-00 [ICS,7,C*]
	IPCR	C09K0011-06 [I,C*]; C09K0011-06 [I,A]; H05B0033-14 [I,C*]; H05B0033-14 [I,A]
	NCL	313/504.000
	ECLA	C09K011/06
EP 1464691	IPCI	C09K0011-06 [ICM,7]; H05B0033-14 [ICS,7]; H01L0051-30 [ICS,7]; H01L0051-05 [ICS,7,C*]
	IPCR	C09K0011-06 [I,C*]; C09K0011-06 [I,A]; H05B0033-14 [I,C*]; H05B0033-14 [I,A]
	ECLA	C09K011/06; H05B033/14
JP 2004311424	IPCI	H05B0033-14 [ICM,7]; C09K0011-06 [ICS,7]; H05B0033-22 [ICS,7]
"	IPCR	C09K0011-06 [I,A]; C09K0011-06 [I,C*]; H05B0033-14 [I,A]; H05B0033-14 [I,C*]; H05B0033-22 [I,A]; H05B0033-22 [I,C*]
	FTERM	3K007/AB02; 3K007/AB03; 3K007/AB11; 3K007/DB03; 3K007/FA01

OS MARPAT 141:322678

AB Disclosed are an organic electroluminescent element comprising a light emission layer containing a phosphorescent compound and a hole transporting layer adjacent thereto containing a hole transporting material, wherein the hole transporting material has a 0-0 band of the phosphorescence spectra of from 300 to 450 nm and has a mol. weight of not less than 550, and an illuminator and a display each comprising the organic electroluminescent element.

ST org electroluminescent display phosphorescent compd hole transporting material

IT Electroluminescent devices
(displays; organic electroluminescent element containing phosphorescent compound and hole-transporting compound)

IT Luminescent screens
(electroluminescent; organic electroluminescent element containing phosphorescent compound and hole-transporting compound)

IT	2085-33-8, Alq3	4733-39-5	58328-31-7	58473-78-2	61526-94-1
	123847-85-8	149685-52-9	178331-01-6	263722-47-0	405171-87-1
	612519-55-8	693794-98-8	765943-77-9	765943-79-1	765943-81-5
	765943-83-7	765943-85-9	765943-87-1	765943-89-3	765943-90-6

RL: DEV (Device component use); USES (Uses)

(organic electroluminescent element containing phosphorescent compound and hole-transporting compound)

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E1 THROUGH E20 ASSIGNED

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E2	1	149685-52-9/BI
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=> file reg

COST IN U.S. DOLLARS

SINCE FILE
ENTRY

TOTAL
SESSION

FULL ESTIMATED COST

6.20

80.71

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE
ENTRY

TOTAL
SESSION

CA SUBSCRIBER PRICE

-0.78

-2.34

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STRUCTURE FILE UPDATES: 25 JUL 2007 HIGHEST RN 943407-83-8
DICTIONARY FILE UPDATES: 25 JUL 2007 HIGHEST RN 943407-83-8

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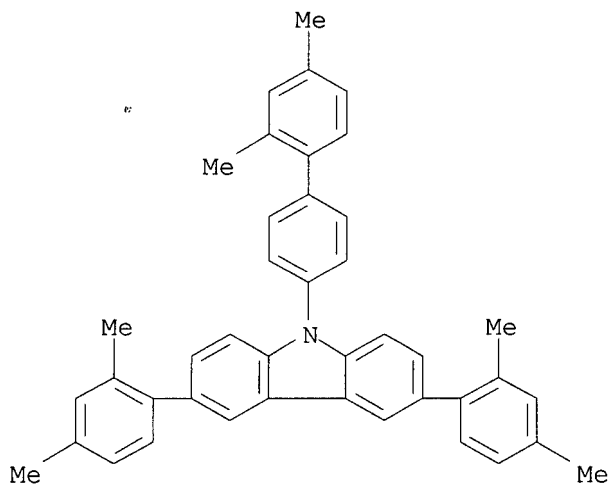
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 RN 765943-90-6 REGISTRY
 ED Entered STN: 20 Oct 2004
 CN 9H-Carbazole, 9-(2',4'-dimethyl[1,1'-biphenyl]-4-yl)-3,6-bis(2,4-
 dimethylphenyl)- (9CI) (CA INDEX NAME)
 MF C42 H37 N
 SR CA
 LC STN Files: CA, CAPLUS, USPATFULL

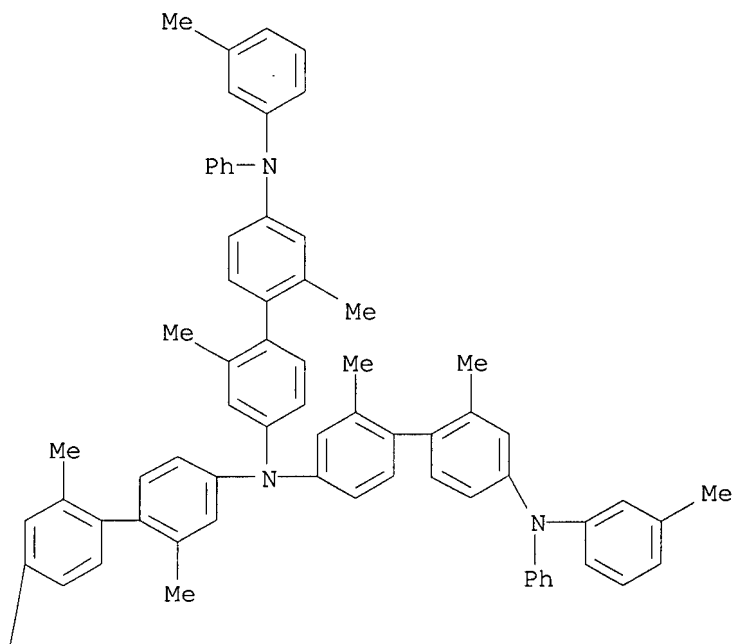


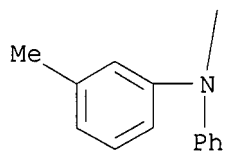
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L6 ANSWER 2 OF 20 REGISTRY COPYRIGHT 2007 ACS on STN
RN 765943-89-3 REGISTRY
ED Entered STN: 20 Oct 2004
CN [1,1'-Biphenyl]-4,4'-diamine, N,N-bis[2,2'-dimethyl-4'-[(3-methylphenyl)phenylamino]]-2,2'-dimethyl-N'-(3-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)
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LC STN Files: CA, CAPLUS, USPATFULL

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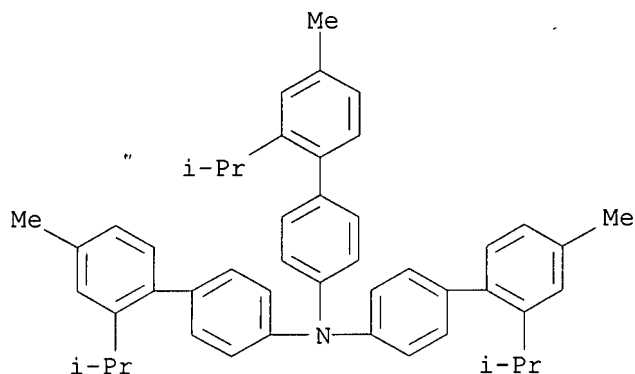




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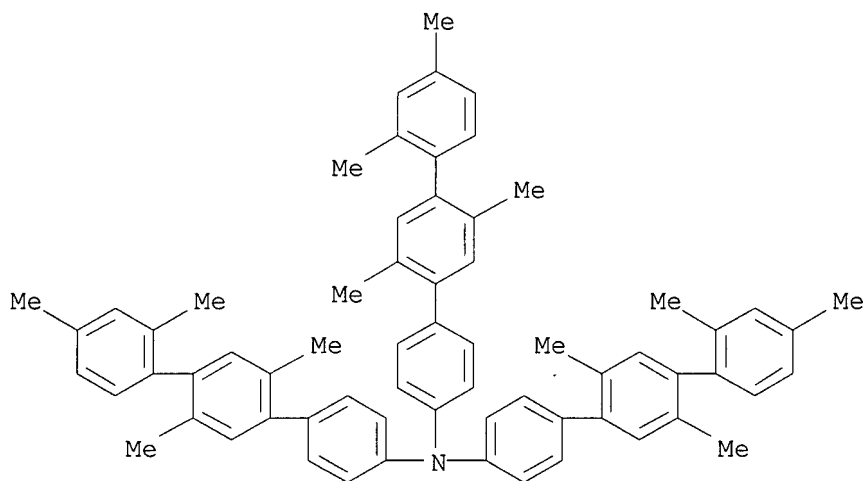
L6 ANSWER 3 OF 20 REGISTRY COPYRIGHT 2007 ACS on STN
RN 765943-87-1 REGISTRY
ED Entered STN: 20 Oct 2004
CN [1,1'-Biphenyl]-4-amine, 4'-methyl-2'-(1-methylethyl)-N,N-bis[4'-methyl-2'-(1-methylethyl)[1,1'-biphenyl]-4-yl]- (9CI) (CA INDEX NAME)
MF C48 H51 N
SR CA
LC STN Files: CA, CAPLUS, USPATFULL



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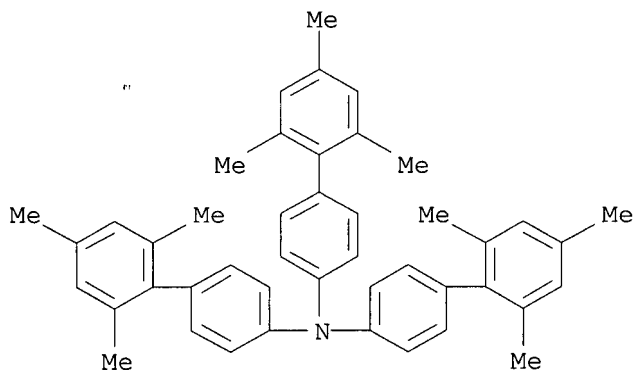
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RN 765943-85-9 REGISTRY
ED Entered STN: 20 Oct 2004
CN [1,1':4',1''-Terphenyl]-4-amine, 2',2'',4'',5'-tetramethyl-N,N-bis(2',2'',4'',5'-tetramethyl[1,1':4',1''-terphenyl]-4-yl)- (9CI) (CA INDEX NAME)
MF C66 H63 N
SR CA
LC STN Files: CA, CAPLUS, USPATFULL



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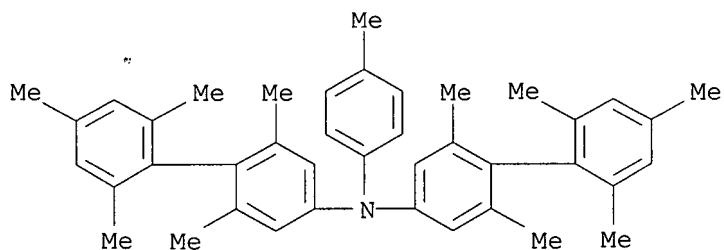
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RN 765943-83-7 REGISTRY
ED Entered STN: 20 Oct 2004
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trimethyl[1,1'-biphenyl]-4-yl)- (9CI) (CA INDEX NAME)
MF C45 H45 N
SR CA
LC STN Files: CA, CAPLUS, USPATFULL



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1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L6 ANSWER 6 OF 20 REGISTRY COPYRIGHT 2007 ACS on STN
RN 765943-81-5 REGISTRY
ED Entered STN: 20 Oct 2004
CN [1,1'-Biphenyl]-4-amine, 2,2',4',6,6'-pentamethyl-N-(4-methylphenyl)-N-
(2,2',4',6,6'-pentamethyl[1,1'-biphenyl]-4-yl)- (9CI) (CA INDEX NAME)
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LC STN Files: CA, CAPLUS, USPATFULL

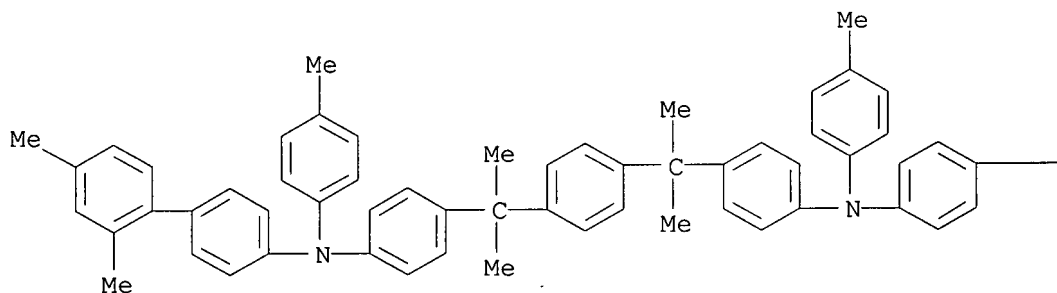


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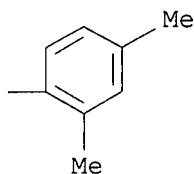
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L6 ANSWER 7 OF 20 REGISTRY COPYRIGHT 2007 ACS on STN
RN 765943-79-1 REGISTRY
ED Entered STN: 20 Oct 2004
CN [1,1'-Biphenyl]-4-amine, N,N'-[1,4-phenylenebis[(1-methylethylidene)-4,1-phenylene]]bis[2',4'-dimethyl-N-(4-methylphenyl)- (9CI) (CA INDEX NAME)
MF C66 H64 N2
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

PAGE 1-A



PAGE 1-B

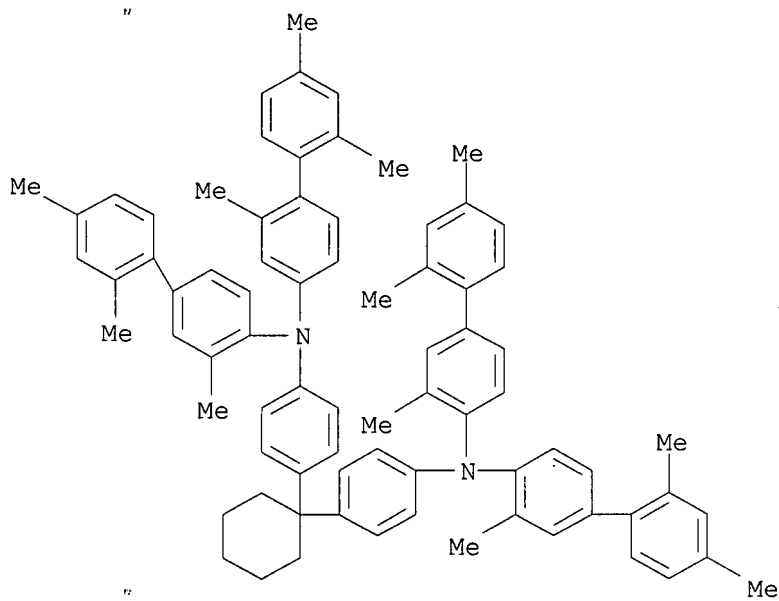


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RN 765943-77-9 REGISTRY

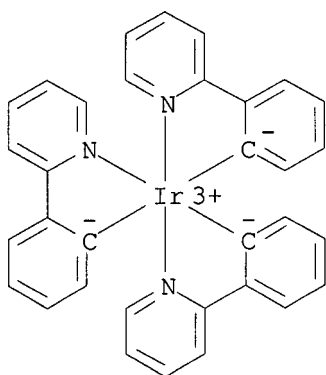
ED Entered STN: 20 Oct 2004
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 MF C78 H78 N2
 SR CA
 LC STN Files: CA, CAPLUS, USPATFULL



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 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L6 ANSWER 9 OF 20 REGISTRY COPYRIGHT 2007 ACS on STN
 RN 693794-98-8 REGISTRY
 ED Entered STN: 16 Jun 2004
 CN Iridium, tris[2-(2-pyridinyl-κN)phenyl-κC]- (9CI) (CA INDEX NAME)
 OTHER NAMES:
 CN Ir(ppy)3
 CN Tris(2-phenylpyridine)iridium
 MF C33 H24 Ir N3
 CI CCS, COM
 SR CA
 LC STN Files: CA, CAPLUS, CASREACT, TOXCENTER, USPATFULL



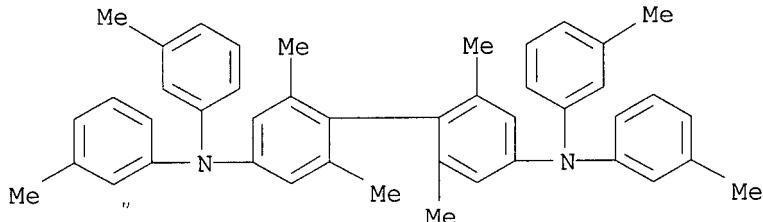
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4 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

308 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L6 ANSWER 10 OF 20 REGISTRY COPYRIGHT 2007 ACS on STN
 RN 612519-55-8 REGISTRY
 ED Entered STN: 04 Nov 2003
 CN [1,1'-Biphenyl]-4,4'-diamine, 2,2',6,6'-tetramethyl-N,N,N',N'-tetrakis(3-methylphenyl)- (9CI) (CA INDEX NAME)
 MF C44 H44 N2
 SR CA
 LC STN Files: CA, CAPLUS, USPAT2, USPATFULL

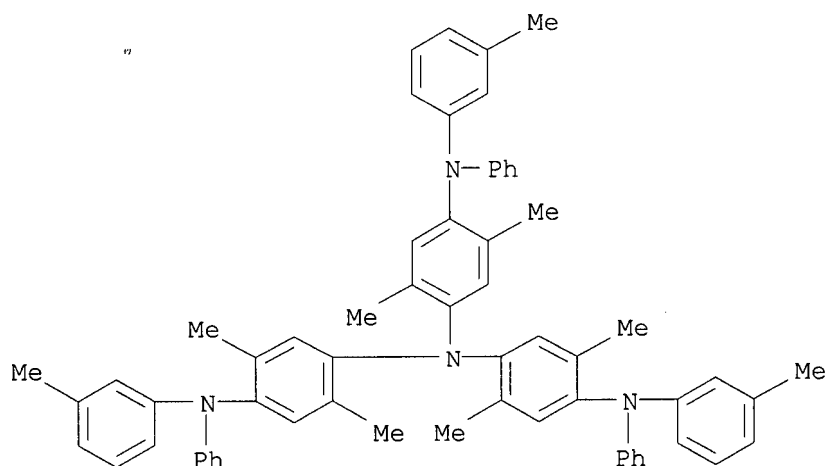


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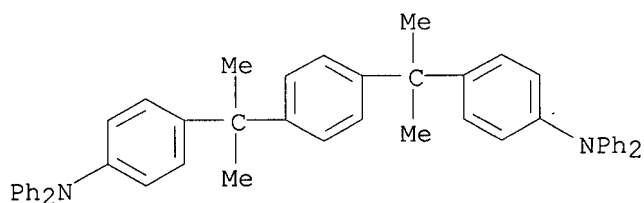
L6 ANSWER 11 OF 20 REGISTRY COPYRIGHT 2007 ACS on STN
 RN 405171-87-1 REGISTRY
 ED Entered STN: 12 Apr 2002
 CN 1,4-Benzenediamine, N1,N1-bis[2,5-dimethyl-4-[(3-methylphenyl)phenylamino]phenyl]-2,5-dimethyl-N4-(3-methylphenyl)-N4-phenyl- (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN 1,4-Benzenediamine, N,N-bis[2,5-dimethyl-4-[(3-methylphenyl)phenylamino]phenyl]-2,5-dimethyl-N'-(3-methylphenyl)-N'-phenyl- (9CI)
 OTHER NAMES:
 CN N,N-Bis[2,5-dimethyl-4-[(3-methylphenyl)phenylamino]phenyl]-2,5-dimethyl-N'-(3-methylphenyl)-N'-phenyl-1,4-benzenediamine
 MF C63 H60 N4
 SR CA
 LC STN Files: CA, CAPLUS, USPAT2, USPATFULL



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

26 REFERENCES IN FILE CA (1907 TO DATE)
26 REFERENCES IN FILE CAPLUS (1907 TO DATE)

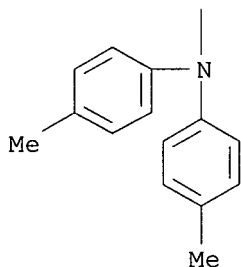
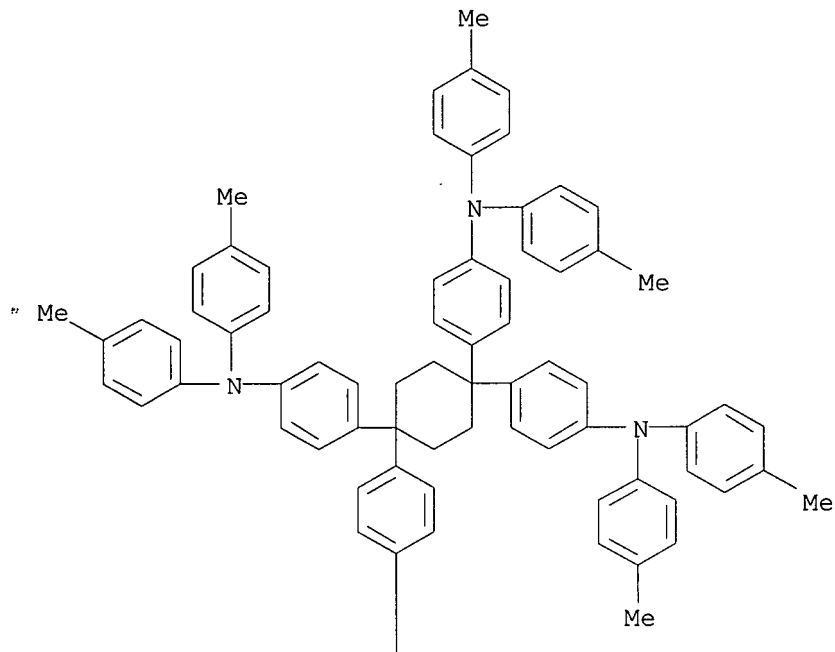
L6 ANSWER 12 OF 20 REGISTRY COPYRIGHT 2007 ACS on STN
RN 263722-47-0 REGISTRY
ED Entered STN: 03 May 2000
CN Benzenamine, 4,4'-[1,4-phenylenebis(1-methylethylidene)]bis[N,N-diphenyl-
(9CI) (CA INDEX NAME)
MF C48 H44 N2
SR CA
LC STN Files: CA, CAPLUS, USPATFULL



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2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

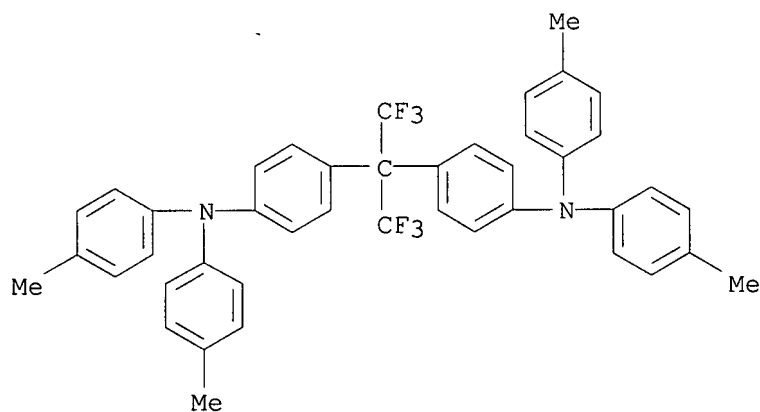
L6 ANSWER 13 OF 20 REGISTRY COPYRIGHT 2007 ACS on STN
RN 178331-01-6 REGISTRY
ED Entered STN: 12 Jul 1996
CN Benzenamine, 4,4',4'',4'''-(1,4-cyclohexanediylidene)tetrakis[N,N-bis(4-
methylphenyl)- (9CI) (CA INDEX NAME)
MF C86 H80 N4
SR CA
LC STN Files: CA, CAPLUS, USPATFULL



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L6 ANSWER 14 OF 20 REGISTRY COPYRIGHT 2007 ACS on STN
RN 149685-52-9 REGISTRY
ED Entered STN: 31 Aug 1993
CN Benzenamine, 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)
MF C43 H36 F6 N2
SR CA
LC STN Files: CA, CAPLUS, USPATFULL



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

3 REFERENCES IN FILE CA (1907 TO DATE)
3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L6 ANSWER 15 OF 20 REGISTRY COPYRIGHT 2007 ACS on STN

RN 123847-85-8 REGISTRY

ED Entered STN: 17 Nov 1989

CN [1,1'-Biphenyl]-4,4'-diamine, N4,N4'-di-1-naphthalenyl-N4,N4'-diphenyl-
(CA INDEX NAME)

OTHER CA INDEX NAMES:

CN [1,1'-Biphenyl]-4,4'-diamine, N,N'-di-1-naphthalenyl-N,N'-diphenyl- (9CI)

OTHER NAMES:

CN α -NPD

CN 4,4'-Bis[(1-naphthyl)phenylamino]-1,1'-biphenyl

CN 4,4'-Bis[N-(1-naphthyl)-N-phenylamino]biphenyl

CN 4,4'-Bis[N-phenyl-N-(1'-naphthyl)amino]biphenyl

CN 4,4'-Bis[phenyl(naphthalen-1-yl)amino]-1,1'-biphenyl

CN N,N'-Biphenyl-N,N'-bis(1-naphthyl)[1,1'-biphenyl]-4,4'-diamine

CN N,N'-Bis(α -naphthyl)-N,N'-diphenyl-1,1'-biphenyl-4,4'-diamine

CN N,N'-Bis(α -naphthyl)-N,N'-diphenylbenzidine

CN N,N'-Bis(1-naphthyl)-N,N'-diphenyl-1,1'-biphenyl-4,4'-diamine

CN N,N'-Bis(1-naphthyl)-N,N'-diphenyl-4,4'-benzidine

CN N,N'-Bis(naphthalen-1-yl)-N,N'-diphenylbenzidine

CN N,N'-Di(1-naphthyl)-N,N'-diphenyl-4,4'-diaminobiphenyl

CN N,N'-Di(naphthalen-1-yl)-N,N'-diphenylbenzidine

CN N,N'-Di(naphthalen-1-yl)-N,N'-diphenylbenzidine

CN N,N'-Di-1-naphthyl-N,N'-diphenylbenzidine

CN N,N'-Diphenyl-N,N'-bis(α -naphthyl)-1,1'-biphenyl-4,4'-diamine

CN N,N'-Diphenyl-N,N'-bis(1-naphthyl)-1,1'-biphenyl-4,4'-diamine

CN N,N-Bis(1-naphthyl)-N,N'-diphenyl-1,1'-biphenyl-4,4'-diamine

CN NPB

CN NPB (photoreceptor)

CN NPD

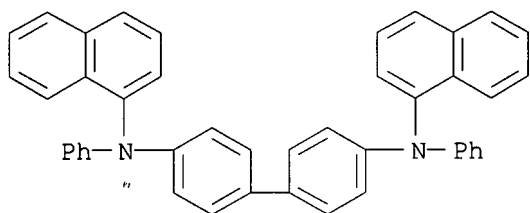
CN ST 16/7

MF C44 H32 N2

CI COM

SR CA

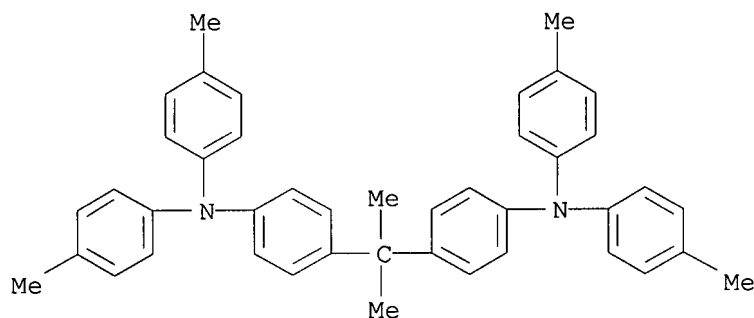
LC STN Files: CA, CAPLUS, CASREACT, CHEMCATS, CSCHEM, TOXCENTER, USPAT2,
USPATFULL



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 9 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 3263 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L6 ANSWER 16 OF 20 REGISTRY COPYRIGHT 2007 ACS on STN
 RN 61526-94-1 REGISTRY
 ED Entered STN: 16 Nov 1984
 CN Benzenamine, 4,4'-(1-methylethylidene)bis[N,N-bis(4-methylphenyl)- (CA INDEX NAME)
 OTHER NAMES:
 CN 2,2-Bis(di-p-tolylaminophenyl)propane
 MF C43 H42 N2
 LC STN Files: CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL

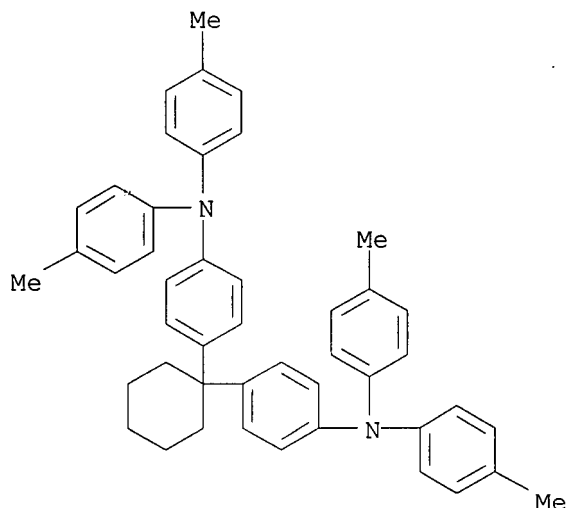


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

7 REFERENCES IN FILE CA (1907 TO DATE)
 7 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L6 ANSWER 17 OF 20 REGISTRY COPYRIGHT 2007 ACS on STN
 RN 58473-78-2 REGISTRY
 ED Entered STN: 16 Nov 1984
 CN Benzenamine, 4,4'-cyclohexylidenebis[N,N-bis(4-methylphenyl)- (CA INDEX NAME)
 OTHER NAMES:
 CN 1,1-Bis(4-di-p-tolylaminophenyl)cyclohexane
 CN 1,1-Bis(di-4-tolylaminophenyl)cyclohexane
 CN 1,1-Bis[4-(di-4-tolylamino)phenyl]cyclohexane
 CN 4,4'-Cyclohexylidenebis[N,N-di-p-tolylaniline]
 CN ST 755
 CN TAPC
 DR 148044-18-2
 MF C46 H46 N2
 LC STN Files: AGRICOLA, BEILSTEIN*, CA, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, IFICDB, IFIPAT, IFIUDB, PIRA, USPAT2, USPATFULL

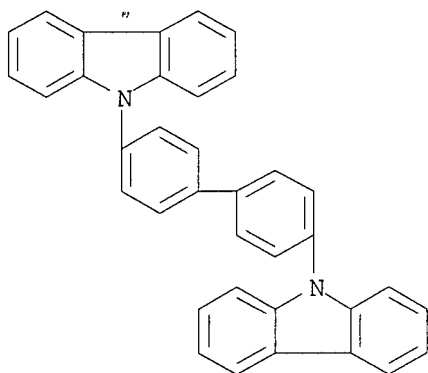
(*File contains numerically searchable property data)
 Other Sources: EINECS**, NDSL**, TSCA**
 (**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

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 1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 246 REFERENCES IN FILE CAPLUS (1907 TO DATE)

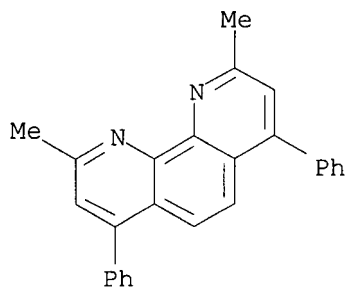
L6 ANSWER 18 OF 20 REGISTRY COPYRIGHT 2007 ACS on STN
 RN 58328-31-7 REGISTRY
 ED Entered STN: 16 Nov 1984
 CN 9H-Carbazole, 9,9'-[1,1'-biphenyl]-4,4'-diylbis- (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN Carbazole, 9,9'-(4,4'-biphenylene)di- (6CI)
 OTHER NAMES:
 CN 4,4'-Bis(carbazol-9-yl)biphenyl
 CN 4,4'-Bis(N-carbazole)biphenyl
 CN 4,4'-Bis(N-carbazolyl)-1,1'-biphenyl
 CN 4,4'-Bis(N-carbazolyl)biphenyl
 CN 4,4'-Biscarbazolylbiphenyl
 CN 4,4'-Di(N-carbazole)-1,1'-biphenyl
 CN 4,4'-N,N'-Dicarbazolylbiphenyl
 CN CBP
 CN CBP (dye)
 CN CPB
 MF C36 H24 N2
 CI COM
 LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, TOXCENTER,
 USPAT2, USPATFULL
 (*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

895 REFERENCES IN FILE CA (1907 TO DATE)
 13 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 911 REFERENCES IN FILE CAPLUS (1907 TO DATE)
 2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L6 ANSWER 19 OF 20 REGISTRY COPYRIGHT 2007 ACS on STN
 RN 4733-39-5 REGISTRY
 ED Entered STN: 16 Nov 1984
 CN 1,10-Phenanthroline, 2,9-dimethyl-4,7-diphenyl- (CA INDEX NAME)
 OTHER NAMES:
 CN 2,9-Dimethyl-4,7-diphenyl-1,10-phenanthroline
 CN 4,7-Diphenyl-2,9-dimethyl-1,10-phenanthroline
 CN Bathocuproin
 CN Bathocuproine
 CN BCP
 CN BCP (dye)
 CN NSC 89195
 MF C26 H20 N2
 CI COM
 LC STN Files: AGRICOLA, BEILSTEIN*, BIOSIS, BIOTECHNO, CA, CAOLD, CAPLUS,
 CASREACT, CHEMCATS, CHEMLIST, CSCHEM, EMBASE, GMELIN*, IFICDB, IFIPAT,
 IFIUDB, MEDLINE, MSDS-OHS, SPECINFO, TOXCENTER, USPAT2, USPATFULL
 (*File contains numerically searchable property data)
 Other Sources: DSL**, EINECS**, TSCA**
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PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

" 1206 REFERENCES IN FILE CA (1907 TO DATE)
 38 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

1225 REFERENCES IN FILE CAPLUS (1907 TO DATE)

8 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L6 ANSWER 20 OF 20 REGISTRY COPYRIGHT 2007 ACS on STN

RN 2085-33-8 REGISTRY

ED Entered STN: 16 Nov 1984

CN Aluminum, tris(8-quinolinolato-κN1,κO8)- (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Aluminum, tris(8-quinolinolato)- (6CI, 7CI, 8CI)

CN Aluminum, tris(8-quinolinolato-N1,O8)-

OTHER NAMES:

CN 8-Hydroxyquinoline aluminum

CN Al 8Q

CN Alq3

CN Aluminum 8-hydroxyquinolate

CN Aluminum oxinate

CN Aluminum tris(8-hydroxyquinolate)

CN Aluminum tris(8-quinolinolate)

CN Aluminum, tris(8-hydroxyquinolinato)-

CN Hydroxyquinoline aluminum

CN Tri-8-quinolinolatoaluminum

CN Tris(8-hydroxyquinolato)aluminum

CN Tris(8-hydroxyquinolate)aluminum

CN Tris(8-hydroxyquinolinato)aluminum

CN Tris(8-hydroxyquinolinol-N1,O8)aluminum

CN Tris(8-quinolinol)aluminum

CN Tris(8-quinolinolato)aluminum

CN Tris(8-quinolinolato)aluminum(III)

CN Tris-(8-hydroxyquinoline)aluminum

DR 11094-99-8, 24731-66-6

MF C27 H18 Al N3 O3

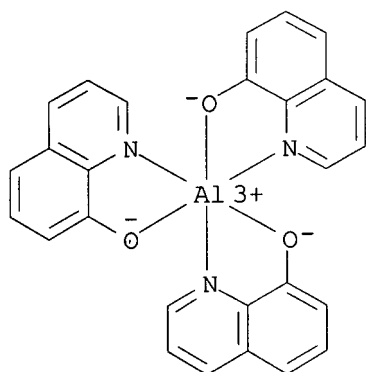
CI CCS, COM

LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMLIST, CSCHEM, GMELIN*, IFICDB, IFIPAT, IFIUBD, MRCK*, PIRA, RTECS*, TOXCENTER, USPAT2, USPATFULL

(*File contains numerically searchable property data)

Other Sources: EINECS**

(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

6686 REFERENCES IN FILE CA (1907 TO DATE)

32 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

6734 REFERENCES IN FILE CAPLUS (1907 TO DATE)

44 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> FIL REGISTRY

COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	40.35	121.06
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	0.00	-2.34

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DICTIONARY FILE UPDATES: 25 JUL 2007 HIGHEST RN 943407-83-8

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<http://www.cas.org/support/stngen/stndoc/properties.html>

=> SET TERMSET E#

SET COMMAND COMPLETED

=> DEL SEL Y

=> SEL L6 2 RN

E1 THROUGH E1 ASSIGNED

=> S E1/RN

L7 1 765943-89-3/RN

=> SET TERMSET LOGIN

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=> FIL CAPLUS

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FULL ESTIMATED COST	0.53	121.59
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	0.00	-2.34

FILE 'CAPLUS' ENTERED AT 17:54:00 ON 26 JUL 2007
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FILE COVERS 1907 - 26 Jul 2007 VOL 147 ISS 5
FILE LAST UPDATED: 25 Jul 2007 (20070725/ED)

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<http://www.cas.org/infopolicy.html>

=> S L7

L8 1 L7

=> DIS L8 1 IBIB IABS

THE ESTIMATED COST FOR THIS REQUEST IS 2.83 U.S. DOLLARS
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N:Y

L8 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:802182 CAPLUS
DOCUMENT NUMBER: 141:322678
TITLE: Organic electroluminescent element, illuminator, and display
INVENTOR(S): Suzuri, Yoshiyuki; Kita, Hiroshi; Oshiyama, Tomohiro; Fukuda, Mitsuhiro; Ueda, Noriko
PATENT ASSIGNEE(S): Japan
SOURCE: U.S. Pat. Appl. Publ., 63 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004189190	A1	20040930	US 2004-804788	20040319
EP 1464691	A2	20041006	EP 2004-6649	20040319
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK				
JP 2004311424	A	20041104	JP 2004-84609	20040323
PRIORITY APPLN. INFO.:			JP 2003-85023	A 20030326
OTHER SOURCE(S):	MARPAT 141:322678			

ABSTRACT:

Disclosed are an organic electroluminescent element comprising a light emission layer containing a phosphorescent compound and a hole transporting layer adjacent thereto containing a hole transporting material, wherein the hole transporting material has a 0-0 band of the phosphorescence spectra of from 300 to 450 nm and has a mol. weight of not less than 550, and an illuminator and a display each comprising the organic electroluminescent element.

=> FIL REGISTRY

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	5.65	127.24
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-0.78	-3.12

FILE 'REGISTRY' ENTERED AT 17:57:42 ON 26 JUL 2007
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DICTIONARY FILE UPDATES: 25 JUL 2007 HIGHEST RN 943407-83-8

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TSCA INFORMATION NOW CURRENT THROUGH December 2, 2006

Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stndoc/properties.html>

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SET COMMAND COMPLETED

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E1 THROUGH E1 ASSIGNED

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L9 1 612519-55-8/RN

=> SET TERMSET LOGIN

SET COMMAND COMPLETED

=> FIL CAPLUS

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.53	127.77
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION

CA SUBSCRIBER PRICE

0.00

-3.12

FILE 'CAPLUS' ENTERED AT 17:57:46 ON 26 JUL 2007
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FILE COVERS 1907 - 26 Jul 2007 VOL 147 ISS 5
FILE LAST UPDATED: 25 Jul 2007 (20070725/ED)

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=> S L9

L10 3 L9

=> DIS L10 1- IBIB IABS
YOU HAVE REQUESTED DATA FROM 3 ANSWERS - CONTINUE? Y/(N):Y
THE ESTIMATED COST FOR THIS REQUEST IS 8.49 U.S. DOLLARS
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N:Y

L10 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:802182 CAPLUS
DOCUMENT NUMBER: 141:322678
TITLE: Organic electroluminescent element, illuminator, and display
INVENTOR(S): Suzuri, Yoshiyuki; Kita, Hiroshi; Oshiyama, Tomohiro; Fukuda, Mitsuhiro; Ueda, Noriko
PATENT ASSIGNEE(S): Japan
SOURCE: U.S. Pat. Appl. Publ., 63 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004189190	A1	20040930	US 2004-804788	20040319
EP 1464691	A2	20041006	EP 2004-6649	20040319
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK				
JP 2004311424	A	20041104	JP 2004-84609	20040323
PRIORITY APPLN. INFO.:			JP 2003-85023	A 20030326
OTHER SOURCE(S):	MARPAT 141:322678			

ABSTRACT:
Disclosed are an organic electroluminescent element comprising a light emission layer containing a phosphorescent compound and a hole transporting layer adjacent thereto containing a hole transporting material, wherein the hole transporting material has a 0-0 band of the phosphorescence spectra of from 300 to 450 nm

and has a mol. weight of not less than 550, and an illuminator and a display each comprising the organic electroluminescent element.

L10 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:391687 CAPLUS
DOCUMENT NUMBER: 140:383225
TITLE: Organic electroluminescent elements with high emission efficiency and displays having them
INVENTOR(S): Oshiyama, Tomohiro; Yamada, Taketoshi; Kita, Hiroshi
PATENT ASSIGNEE(S): Konica Minolta Holdings Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 28 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004139819	A	20040513	JP 2002-302865	20021017
PRIORITY APPLN. INFO.:			JP 2002-302865	20021017
OTHER SOURCE(S):	MARPAT 140:383225			

ABSTRACT:

The element, useful for blue-emitting LEDs, comprises (A) an anode, (B) a layer containing 1st hole transporters (e.g. arylamines), (C) a layer containing 2nd hole transporters, and (D) a luminescent layer containing host compds. and phosphorescent dopants, wherein the min. triplet excitation energy of the 1st hole transporters (T1a), the 2nd hole transporters (T1b), the host compds. (T1c), and the dopants (T1d) satisfy the relationships of $T1b > T1c$, $T1a < T1c$, and $T1c > T1d$. The maximum luminescence wavelength may be 380 to 500 nm. Ionization potentials of the hole transporters, the dopants, and the host compds. are also specified.

L10 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:817598 CAPLUS
DOCUMENT NUMBER: 139:314295
TITLE: Organic electroluminescence element
INVENTOR(S): Oshiyama, Tomohiro; Kita, Hiroshi; Yamada, Taketoshi
PATENT ASSIGNEE(S): Konica Corporation, Japan
SOURCE: Eur. Pat. Appl., 22 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1353388	A2	20031015	EP 2003-7431	20030403
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
JP 2004006287	A	20040108	JP 2003-90803	20030328
US 2003198831	A1	20031023	US 2003-410312	20030409
US 7128982	B2	20061031		
US 2007015008	A1	20070118	US 2006-516285	20060906
PRIORITY APPLN. INFO.:			JP 2002-110303	A 20020412
			US 2003-410312	A3 20030409

ABSTRACT:

An organic electroluminescence element is disclosed which comprises a hole transporting layer containing a hole transporting material, a light emission layer containing a host compound and a phosphorescent compound, a hole blocking layer, and an "

electron transporting layer, the host compound having a band gap of 3.3-5 eV, and having a mol. weight of ≥ 500 , and relation $c < d$ being satisfied, wherein c (eV) represents a difference between energy level of LUMO in the hole blocking layer and energy level of LUMO in the light emission layer and d (eV) represents a difference between energy level of HOMO in the hole blocking layer and energy level of HOMO in the light emission layer.

=> d history

(FILE 'HOME' ENTERED AT 17:38:47 ON 26 JUL 2007)

FILE 'CAPLUS' ENTERED AT 17:39:12 ON 26 JUL 2007

E US20045404/PN

E US2004005404/PN

L1 1 S E3
DELETE SELECT Y
SEL L1 RN 1-

FILE 'REGISTRY' ENTERED AT 17:43:19 ON 26 JUL 2007

L2 14 S E1-E14

FILE 'CAPLUS' ENTERED AT 17:45:22 ON 26 JUL 2007

E US2004189190/PN

L3 1 S E3
DELETE SELECT Y
SEL L1 RN 1-

FILE 'REGISTRY' ENTERED AT 17:46:23 ON 26 JUL 2007

L4 14 S E1-E14
DELETE SELECT Y

FILE 'CAPLUS' ENTERED AT 17:51:03 ON 26 JUL 2007

E US2004189190/PN

L5 1 S E3
DELETE SELECT Y
SEL L5 RN 1-

FILE 'REGISTRY' ENTERED AT 17:52:12 ON 26 JUL 2007

L6 20 S E1-E20

FILE 'REGISTRY' ENTERED AT 17:53:55 ON 26 JUL 2007

SET TERMSET E#

DEL SEL Y

SEL L6 2 RN

L7 1 S E1/RN
SET TERMSET LOGIN

FILE 'CAPLUS' ENTERED AT 17:54:00 ON 26 JUL 2007

L8 1 S L7

FILE 'REGISTRY' ENTERED AT 17:57:42 ON 26 JUL 2007

SET TERMSET E#

DEL SEL Y

SEL L6 10 RN

L9 1 S E1/RN
SET TERMSET LOGIN

FILE 'CAPLUS' ENTERED AT 17:57:46 ON 26 JUL 2007

L10 3 S L9

=> d cost

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

	ENTRY	SESSION
CONNECT CHARGES	2.05	15.41
NETWORK CHARGES	0.30	2.34
SEARCH CHARGES	0.00	6.03
DISPLAY CHARGES	8.49	114.83
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FULL ESTIMATED COST	10.84	138.61

	SINCE FILE	TOTAL
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	ENTRY	SESSION
CA SUBSCRIBER PRICE	-2.34	-5.46

IN FILE 'CAPLUS' AT 18:00:33 ON 26 JUL 2007

=>

L10 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:802182 CAPLUS
DOCUMENT NUMBER: 141:322678
TITLE: " Organic electroluminescent element, illuminator, and display
INVENTOR(S): Suzuri, Yoshiyuki; Kita, Hiroshi; Oshiyama, Tomohiro; Fukuda, Mitsuhiro; Ueda, Noriko
PATENT ASSIGNEE(S): Japan
SOURCE: U.S. Pat. Appl. Publ., 63 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004189190	A1	20040930	US 2004-804788	20040319
EP 1464691	A2	20041006	EP 2004-6649	20040319
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK				
JP 2004311424	A	20041104	JP 2004-84609	20040323
PRIORITY APPLN. INFO.:			JP 2003-85023	A 20030326
OTHER SOURCE(S):	MARPAT 141:322678			

ABSTRACT:

Disclosed are an organic electroluminescent element comprising a light emission layer containing a phosphorescent compound and a hole transporting layer adjacent thereto containing a hole transporting material, wherein the hole transporting material has a 0-0 band of the phosphorescence spectra of from 300 to 450 nm and has a mol. weight of not less than 550, and an illuminator and a display each comprising the organic electroluminescent element.

L10 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:391687 CAPLUS
DOCUMENT NUMBER: 140:383225
TITLE: Organic electroluminescent elements with high emission efficiency and displays having them
INVENTOR(S): Oshiyama, Tomohiro; Yamada, Taketoshi; Kita, Hiroshi
PATENT ASSIGNEE(S): Konica Minolta Holdings Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 28 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004139819	A	20040513	JP 2002-302865	20021017
PRIORITY APPLN. INFO.:			JP 2002-302865	20021017
OTHER SOURCE(S):	MARPAT 140:383225			

ABSTRACT:

The element, useful for blue-emitting LEDs, comprises (A) an anode, (B) a layer containing 1st hole transporters (e.g. arylamines), (C) a layer containing 2nd hole transporters, and (D) a luminescent layer containing host compds. and phosphorescent dopants, wherein the min. triplet excitation energy of the 1st hole transporters (T1a), the 2nd hole transporters (T1b), the host compds. (T1c), and the dopants (T1d) satisfy the relationships of T1b > T1c, T1a < T1c, and T1c > T1d. The maximum luminescence wavelength may be 380 to 500 nm. Ionization potentials of the hole transporters, the dopants, and the host compds. are also specified.

L10 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:817598 CAPLUS
DOCUMENT NUMBER: 139:314295
TITLE: Organic electroluminescence element
INVENTOR(S): Oshiyama, Tomohiro; Kita, Hiroshi; Yamada, Taketoshi
PATENT ASSIGNEE(S): Konica Corporation, Japan
SOURCE: Eur. Pat. Appl., 22 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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EP 1353388	A2	20031015	EP 2003-7431	20030403
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
JP 2004006287	A	20040108	JP 2003-90803	20030328
US 2003198831	A1	20031023	US 2003-410312	20030409
US 7128982	B2	20061031		
US 2007015008	A1	20070118	US 2006-516285	20060906
PRIORITY APPLN. INFO.:			JP 2002-110303	A 20020412
			US 2003-410312	A3 20030409

ABSTRACT:

An organic electroluminescence element is disclosed which comprises a hole transporting layer containing a hole transporting material, a light emission layer containing a host compound and a phosphorescent compound, a hole blocking layer, and an electron transporting layer, the host compound having a band gap of 3.3-5 eV, and having a mol. weight of ≥ 500 , and relation $c < d$ being satisfied, wherein c (eV) represents a difference between energy level of LUMO in the hole blocking layer and energy level of LUMO in the light emission layer and d (eV) represents a difference between energy level of HOMO in the hole blocking layer and energy level of HOMO in the light emission layer.